Message

**From**: Mangino, Mario [mangino.mario@epa.gov]
**Sent**: 4/11/2019 5:17:56 PM
**To**: Ramanauskas, Peter [ramanauskas.peter@epa.gov]
**CC**: Dodds, Jennifer [dodds.jennifer@epa.gov]
**Subject**: RE: Citizen PCB & Gardening Question

**Flag**: Follow up

PETER:

I have looked over the 1999 Memos from Milt Clark which we have referred to for evaluating PCB exposures for the GM Bedford case.

I believe that Milt's risk scenario methodology Memo is still valid now. I believe that Milt adapted his PCB biotransfer factors (soil-to-crops) from the best available information at the time. I would need to do a significant amount of comparison work to see how those factors compare to the factors that EPA may have cited in the more recent Combustion Risk Assessment Guidance (2005). Nevertheless, Milt's exposure scenario is very conservative in assuming that a person could garden and consume vegetables every year for 30 years and the consumer does not peel or remove the skin of below ground crops.

The analysis found that 1-2 ppm PCBs in soil was associated with a long-term risk of about 1E-05 (including a 10% contribution from incidental soil ingestion). By extrapolation, a PCB soil concentration of 10 ppm would be associated with long-term cancer risk of about 1E-04, or a risk level that we would not want to see be exceeded based on our risk policy goals.

After some other searching in EPA sources, I found that the EPA did a risk evaluation for the Housatonic River and Floodplain for home gardening. There conclusion was that "Consumption of home garden produce (at a soil concentration of 2 mg/kg or less) is not a health risk, even in combination with soil exposure during gardening activities." Here is the fact Sheet on this. I will try to find the risk assessment document.

https://www.epa.gov/ge-housatonic/understanding-pcb-risks-ge-pittsfieldhousatonic-river-site

Regarding Mr. Klafka's specific question, he asks if EPA has guidance "on PCB concentrations in the soil at which food gardening is not recommended?"

I think we could say that EPA does not have specific published guidance related to PCBs in soil and home gardening. However, EPA exposure and risk evaluations indicate that soil at PCB concentrations below 2 ppm would not be associated with significant health risk for the typical home gardening scenario. At PCBs soil concentrations at or above 10 ppm, home gardening could begin to be associated with health risk that would be a potential concern. That concern would apply more specifically for an individual who consumes garden vegetables grown at the same location for many years.

Let me know if we should discuss further.

Mario Mangino
312-886-2589
++++++++++++++++++++++++++++++++++++++++++++++++

**From:** Ramanauskas, Peter
**Sent:** Wednesday, April 10, 2019 1:00 PM
**To:** Mangino, Mario <mangino.mario@epa.gov>; Dodds, Jennifer <dodds.jennifer@epa.gov>
**Subject:** RE: Citizen PCB & Gardening Question

Here's the memo.

---

**From:** Ramanauskas, Peter
**Sent:** Wednesday, April 10, 2019 12:58 PM
**To:** Mario Mangino <Mangino.Mario@epa.gov>; Jennifer Dodds <Dodds.Jennifer@epa.gov>
**Subject:** Citizen PCB & Gardening Question

Hi Mario/Jennifer,

I received the message below from a citizen living in the neighborhood near a facility with a history of PCB contamination. He has a question related to a nearby community center garden and PCB in soil concentrations. I'm not sure if this garden is directly in the adjacent ground or within a raised bed with clean soils brought in.

In any case, I'm not aware of any EPA guidance related to PCB & food gardening. I do have copy of a 1999 memo from Milt Clark which discusses risk assessments done at the 1 to 2 ppm soil level. I know we consulted with Milt on the residential cleanup for GM Bedford many years ago.

I'd appreciate any suggestions you might have on formulating a response to Mr. Klafka.

Thanks!
Peter

---

**From:** Steven Klafka <sklafka@wingraengineering.com>
**Sent:** Wednesday, April 10, 2019 9:49 AM
**To:** Ramanauskas, Peter <ramanauskas.peter@epa.gov>
**Subject:** Guidance for PCB Sampling under Bike Path

Peter,

Thanks for responding to my questions about our PCB investigation.

Related to this cleanup, are you aware of guidance on PCB concentrations in the soil at which food gardening is not recommended? Along the bike path under investigation, the community center has a garden.

Steve Klafka

On 3/27/2019 4:38 PM, Ramanauskas, Peter wrote:

> Hello Steve,
>
> Answers to your questions follow:
>
> 1. Is there EPA guidance on the frequency of sampling along the bike path? Their plan approved by the DNR calls for sampling every 93 feet. Sampling in the soil adjacent to the bike path found orders of magnitude difference just within a few feet.
>
> *The federal regulations provide a characterization guidance under 40 CFR 761 Subpart N; however, it is not mandatory for use. Project Managers are able to use professional judgement related to the adequacy of site characterization based on site specific conditions.*
>
> 2. The bike path is a highly used and is immediately next to the Goodman Center which has outdoor toddler splash pad, pre-school and 4-year old kindergarden. Should the residential RCL of 0.2 ppm be used to determine if soil should be removed rather than the 10 ppm approved by the DNR?

*Under the federal PCB regulations, 10 ppm is an acceptable cleanup level for areas meeting a high-occupancy use if the residual PCB between 1 and 10 ppm is capped and noted within an institutional control for the property.*

Regards,
Peter

---

**From:** Steven Klafka <sklafka@wingraengineering.com>
**Sent:** Wednesday, March 27, 2019 9:40 AM
**To:** Ramanauskas, Peter <ramanauskas.peter@epa.gov>
**Subject:** Guidance for PCB Sampling under Bike Path

Peter,

A PCB investigation has been proposed in Madison, Wisconsin. Madison-Kipp will sample beneath approximately 1,300 feet of the bike path that runs along their property. Depending on the PCB concentrations, the bike path will be removed, soil excavated and the path repaved. Soil will be removed if it exceeds 10 ppm. Below are links to the plan, the DNR approval and a map of the project area.

Since this is my neighborhood, I have closely followed the PCB remediation of this industrial property in a residential neighborhood. It would be appreciated if you could address two questions:

1. Is there EPA guidance on the frequency of sampling along the bike path? Their plan approved by the DNR calls for sampling every 93 feet. Sampling in the soil adjacent to the bike path found orders of magnitude difference just within a few feet.

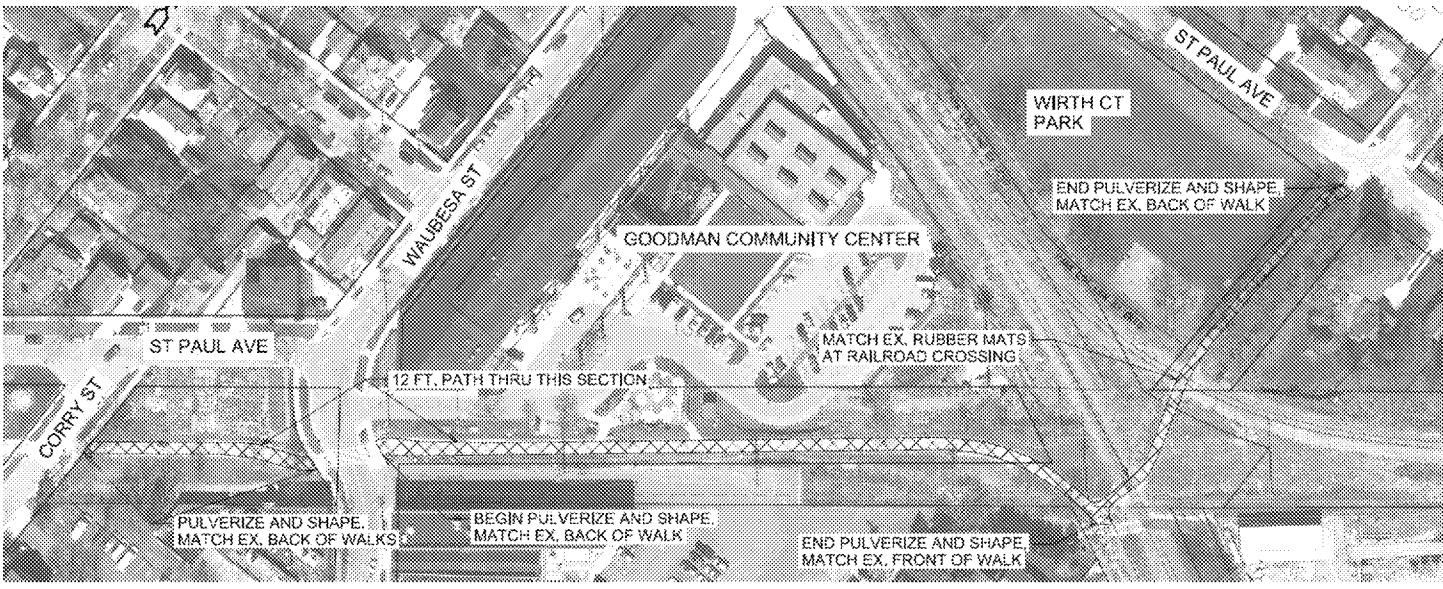
2. The bike path is a highly used and is immediately next to the Goodman Center which has outdoor toddler splash pad, pre-school and 4-year old kindergarden. Should the residential RCL of 0.2 ppm be used to determine if soil should be removed rather than the 10 ppm approved by the DNR?

Thanks for your assistance.

Steve Klafka

Links to plan:

https://dnr.wi.gov/botw/DownloadBlobFile.do?docSeqNo=106707&docName=20190320_35_SIWP.pdf
https://dnr.wi.gov/botw/DownloadBlobFile.do?docSeqNo=106893&docName=20190322_36_SIWP_Appr.pdf




--

Steven Klafka, P.E., BCEE
Environmental Engineer
Wingra Engineering, S.C.
303 South Paterson Street
Madison, WI 53703
(608) 255-5030
www.wingraengineering.com
Since 1991